

Implementation and evaluation of Parkinson disease management in an outpatient clinical pharmacist–run neurology telephone clinic

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Abstract

Parkinson disease (PD) is a progressive, debilitating neurodegenerative disease that often requires complex pharmacologic treatment regimens. Prior to this clinic, there was no involvement of a clinical pharmacy specialist (CPS) in the outpatient neurology clinic at the West Palm Beach Veterans Affairs Medical Center. This was a prospective, quality-improvement project to develop a clinical pharmacist–run neurology telephone clinic and evaluate pharmacologic and nonpharmacologic interventions in an effort to improve the quality of care for patients with PD. Additionally, the CPS conducted medication education groups to 24 patients with PD and their caregivers, if applicable, at this medical center with the purpose of promoting patient knowledge and medication awareness. Medication management was performed via telephone rather than face to face. Only patients with a concomitant mental health diagnosis for which they were receiving at least one psychotropic medication were included for individual visits due to the established scope of practice of the CPS being limited to mental health and primary care medications. Data collection included patient and clinic demographics as well as pharmacologic and nonpharmacologic interventions made for patients enrolled from January 6, 2017, through March 31, 2017. A total of 49 pharmacologic and nonpharmacologic interventions were made for 10 patients. We successfully implemented and evaluated a clinical pharmacist–run neurology telephone clinic for patients with PD. Expansion of this clinic to patients with various neurological disorders may improve access to care using an innovative method of medication management expertise by a CPS.

Keywords: Parkinson disease, clinical pharmacist–run neurology telephone clinic, clinical pharmacy specialist, mental health

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Background

Parkinson disease (PD) is a progressive and debilitating neurodegenerative disease that often requires complex

pharmacologic treatment regimens and interventions from a multidisciplinary team.¹ Although PD is characterized by resting tremor, bradykinesia, rigidity, and loss of postural reflexes, it is increasingly recognized that much of the disability and worsened quality of life is attributable to nonmotor symptoms, particularly neuropsychiatric symptoms. These include cognitive decline and psychiatric symptoms, such as anxiety, depression, and psychosis.^{2,3} Sleep disturbances are also common in PD patients as a result of their anxiety, depression, or physical restlessness.⁴ Other nonmotor symptoms of PD include sensory alterations, restless leg syndrome, decreased olfactory syndrome, diminished visual contrast sensitivity, and autonomic dysfunction.⁵ No known cure exists, so the goal of treatment is reduction or management of

symptoms and improved functionality.⁶ To date, there was no involvement of a CPS in the outpatient neurology clinic at this medical center, which led to the implementation of this pilot clinic.

Methods

Clinic Description and Participants

This clinic was piloted at the West Palm Beach Veterans Affairs Medical Center (WPB VAMC) between January 6, 2017, and March 31, 2017. Patients with a diagnosis of PD followed in the outpatient neurology clinic at the WPB VAMC and with a concomitant mental health (MH) diagnosis for which they were receiving at least 1 psychotropic medication were eligible to be enrolled into this clinic. A system to directly and electronically refer and enroll patients was made available to neurology, primary care, and speech pathology providers. Additionally, a list of patients with PD and a concurrent MH diagnosis from January 1, 2016, to December 31, 2016, was generated in order to identify potential candidacy into this clinic. Patients were called by the CPS and offered enrollment; however, the telephone visit was scheduled for a later time. Zero patients were consulted to the clinic from providers. As a quality improvement project, this pilot clinic did not require local institutional review board approval.

Clinic Process

During the telephone visit, patients were primarily evaluated for nonmotor complications of PD, particularly neuropsychiatric symptoms, such as anxiety, depression, psychosis, and sleep disturbances. The pharmacist was responsible for ordering and monitoring laboratory work, patient education, and any psychiatric and primary care medication adjustments based on patient's needs identified during the visit. All findings, recommendations, and pharmacologic and nonpharmacologic interventions were documented in the patient's electronic medical record. The CPS also conducted 3 hour-long meetings with a set curriculum to patients with PD and their caregivers, if applicable. Anonymous Veterans Affairs (VA)-approved group education surveys were collected at the conclusion of each group.

Data Collection

Data was collected from all patients enrolled into the clinic from January 6, 2017, through March 31, 2017, and analyzed using descriptive statistics. All CPS interventions were collected and tracked via the PharmD tool⁷ in the patient's electronic medical record. The PharmD tool is a reminder dialog template with embedded health factors used nationally throughout the VA health care system to

document clinical pharmacy interventions made during patient care encounters. Baseline data collected included patient demographics, specifically patient's sex, age, race, MH diagnosis per the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition, and current PD and psychotropic medication regimen. Postintervention data included the number of clinic encounters, pharmacologic and nonpharmacologic interventions made, and number of "no show" appointments.

Results

As of March 31, 2017, there were 16 total encounters at this clinic in the WPB VAMC analysis. A total of 10 patients were evaluated in clinic, and all of these patients were recruited from the patient list that was generated prior to starting the clinic. A total of 552 patients (92%) were not considered for this clinic as they did not have a concomitant MH diagnosis at the time of the chart review. Ten patients (1.7%) refused enrollment into the clinic because they did not want to participate in any form of medication review. The clinic demographic data is illustrated in the Table. Six patients (60%) in this clinic were prescribed complex medication regimens for control of their motor symptoms related to PD with 3 or more agents each dosed multiple times daily. Twelve (75%) telephone encounters were completed with the patient's spouse or caregiver with the veteran's permission, and 13 (81%) of the visits were longer than 30 minutes. Only 2 (12.5%) patients were not able to be contacted during the follow-up telephone visits and were considered no-show encounters. Over the 3-month pilot period, there were 20 (41%) total pharmacologic interventions made during the 16 encounters, which included psychotropic medication dose adjustments and initiation or discontinuation of a medication. Eight (50%) of the pharmacologic interventions in the clinic included a psychotropic medication change by the CPS. There was a total of 29 (59%) nonpharmacologic interventions. Of the nonpharmacologic interventions, patients were ordered a medication pill box during 4 (25%) of the clinic encounters. Coordination of care was facilitated during 4 (25%) clinic visits with either MH or neurology providers (Table). All participants found the medication education groups beneficial and would recommend them to another veteran.

Discussion

This pilot aimed to develop and implement the first clinical pharmacist-run neurology telephone clinic for veterans with PD at the WPB VAMC. The CPS was able to provide group education and medication therapy management to a large group of patients and caregivers (n=34) during approximately 3 months between clinic and group. The VA is currently using telehealth to

TABLE: Patient and clinic demographics and interventions

Patient characteristics (N = 10)	
Mean age, y	70
Sex, male, %	100
Race, %	
White	80
African American	10
Hispanic	10
Mental health diagnoses, ^{a,b} %	
Major depressive disorder	70
Posttraumatic stress disorder	60
Generalized anxiety disorder	20
Sleep-wake disorders	20
Current Parkinson disease medication regimen, ^a %	
Carbidopa/Levodopa ± Entacapone	90
Rasagiline	60
Ropinirole	30
Propranolol	20
Primidone	10
Current psychotropic medication regimen, ^a %	
Atypical antipsychotic	80
Antidepressant	80
Anxiolytic	30
Clinic demographics (N = 40)	
Clinic use, encounters	16
No. of initial encounters	10
No. of follow-up encounters	6
No. of no-show visits	2
No. of visits with veteran	4
No. of visits with spouse/caregiver	12
No. of <30-min visits	3
No. of >30-min visits	13
No. of group education surveys received	24
Nonpharmacologic interventions	
Medication reconciliation and education about adherence	16
Update of non-Veterans Affairs medication list	5
Order of medication pill box	4
Facilitation of follow-up appointment with mental health provider/neurologist	4
Pharmacologic interventions	
Medication refill	7
Psychotropic medication renewal	5
Psychotropic medication changes	8

^aPatients could have more than 1 diagnosis and medication. Means reported are diagnoses and medications per patient.

^bA mental health diagnosis was required for referral.

promote more interdisciplinary care. This is particularly of value for patients with PD who have complex, highly individualized medication therapy regimens. A total of 10 patients received 49 pharmacologic and nonpharmacologic interventions in this clinic. Patients received a medication pill box during 4 (25%) of the clinic encounters in an effort to increase adherence with complex medication regimens. This clinic provided 20 pharmacologic interventions under the appropriate scope of practice by means of close telephone monitoring, saving resources for both the health care system and the patients. Incorporating medication therapy management follow-up visits delivered by this clinic can address various medication-related issues and will help to evaluate the utility of this clinic for PD patients. A similar integrated care model has been well-described previously in the literature.⁸ Poon et al⁸ outlined the role of the CPS for PD patients in their medical center and described how pharmacist interventions made important contributions in areas such as therapeutic problem solving and medication education, allowing providers more time for other responsibilities. Future growth of the clinic could potentially incorporate clinical video telehealth to increase access to care to patients and caregivers from the nearest VA community-based outpatient clinics. This would promote the Veterans Health Administration Office of Telehealth Services' mission to "provide the right care in the right place at the right time through cost-effective and appropriate use of health information and telecommunications technologies."⁹ There were some possible limitations to this project that could have limited the number of patients evaluated. The prescriptive authority of the CPS can be viewed as a limitation as it excluded neurology medications, thus significantly impacting the number of patients eligible for this clinic. Education was provided to neurologists, speech pathologists, and primary care providers prior to the opening of the clinic; however, it remains unknown why consults were not received from these providers, decreasing the number of patients evaluated. This may have been due to the perception of the potential providers that their patients were stable and did not require additional interventions at the time. This clinic is an innovative strategy for CPS to provide care and education for patients with PD and their caregivers with minimal equipment and without the need to commute to the medical center, thus reducing transportation time and cost. This clinic eliminated some barriers, such as patients forgetting to bring their medications for their face-to-face medical appointments for review and the inability of some patients and their caregivers to commute to the medical center due to limited physical mobility. A future consideration is to expand the service of the CPS to include a broad spectrum of movement disorders rather than limiting access to patients with a diagnosis of PD.

Conclusion

We were successful in implementing and evaluating this clinic at the WPB VAMC to manage patients with PD. This clinic used individual pharmacist-to-patient and pharmacist-to-caregiver consultations in addition to several PD education groups. A total of 10 patients received 49 pharmacologic and nonpharmacologic interventions in this clinic over a span of approximately 3 months, which shows the increased opportunities for a CPS to provide care for patients with PD. In the future, we hope to expand services in our clinic to include patients with various neurological disorders who may benefit from this innovative method of medication management.

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